



Performance analysis

1. Introduction

The objective of this report is to evaluate the technical performance, accessibility, and search engine optimization (SEO) of the EventX platform. In the modern web environment, page speed and visual stability are critical factors influencing user retention and conversion rates. This audit utilizes Lighthouse and PageSpeed Insights data to establish a performance baseline and identify specific technical barriers to a flawless user experience.

The EventX platform currently demonstrates a high level of optimization, frequently achieving scores in the 90th percentile. This report identifies the remaining "Diagnostic" issues that, when resolved, will ensure the platform meets the highest industry standards for web delivery.

Page speed analysis

The desktop version of the website is performing exceptionally well with a **perfect 100 Performance score**. The core speed metrics are ideal, there are specific "Diagnostics" and "Accessibility" areas where small technical adjustments can further refine the user experience and ensure long-term stability across different devices.

Metric	Score	Status
Performance	100/100	Excellent
Accessibility	90/100	Good (Needs minor fixes)

Metric	Score	Status
Best Practices	100/100	Excellent
SEO	91/100	Good

Critical Technical Diagnostics

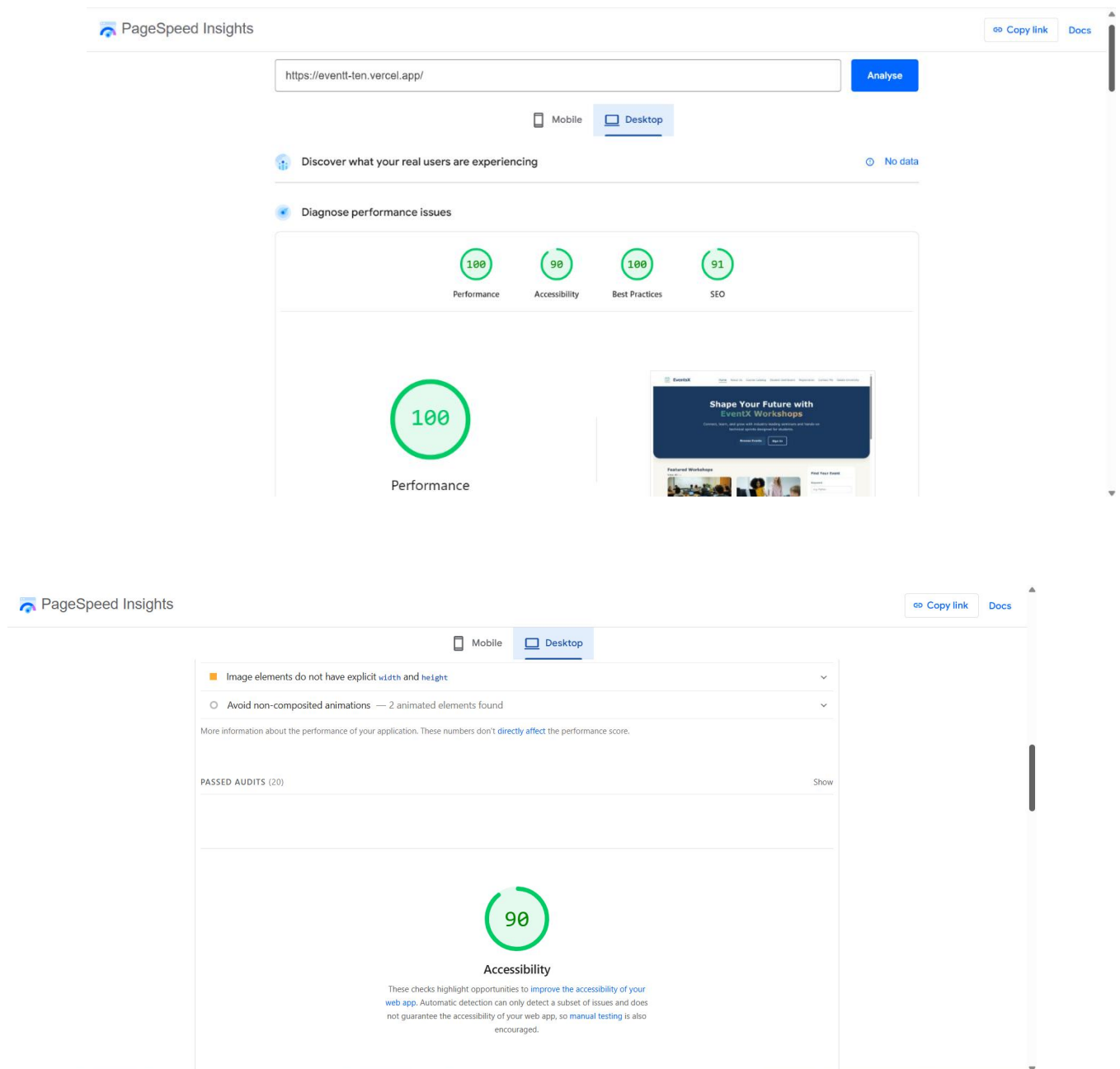
PageSpeed Insights has flagged two specific issues that could lead to "Layout Shifts" or "Jank" as the site grows or is viewed on slower machines.

A. Missing Explicit Image Dimensions

- **The Issue:** images lack fixed width and height attributes in the HTML.
- **Why it matters:** Without these, the browser doesn't know how much space to reserve for an image before it downloads. This causes the content below the image to "jump" or shift suddenly once the image loads, which increases your **Cumulative Layout Shift (CLS)** score.

B. Non-Composited Animations

- **The Issue:** Some animations on the page are using CSS properties that force the browser's "Main Thread" to do heavy work (like margin, top, left, width, or height).
- **Why it matters:** These animations can appear "choppy" because they require the browser to recalculate the layout and repaint pixels for every single frame.



The website is in an excellent performance bracket, achieving a 100 on Desktop and a 99 on Mobile. However. The mobile version has several "Red" diagnostic warnings that indicate that site could feel slower to users on weak networks, and Accessibility (87) and SEO (91) scores on mobile show room for optimization to improve search rankings and user inclusivity.

Category	Desktop Score	Mobile Score	Status
Performance	100	99	Excellent
Accessibility	90	87	Needs Work
Best Practices	100	100	Excellent
SEO	91	91	Good

Mobile Performance diagnosis

A. Render Blocking Requests (Est. Savings: 420 ms)

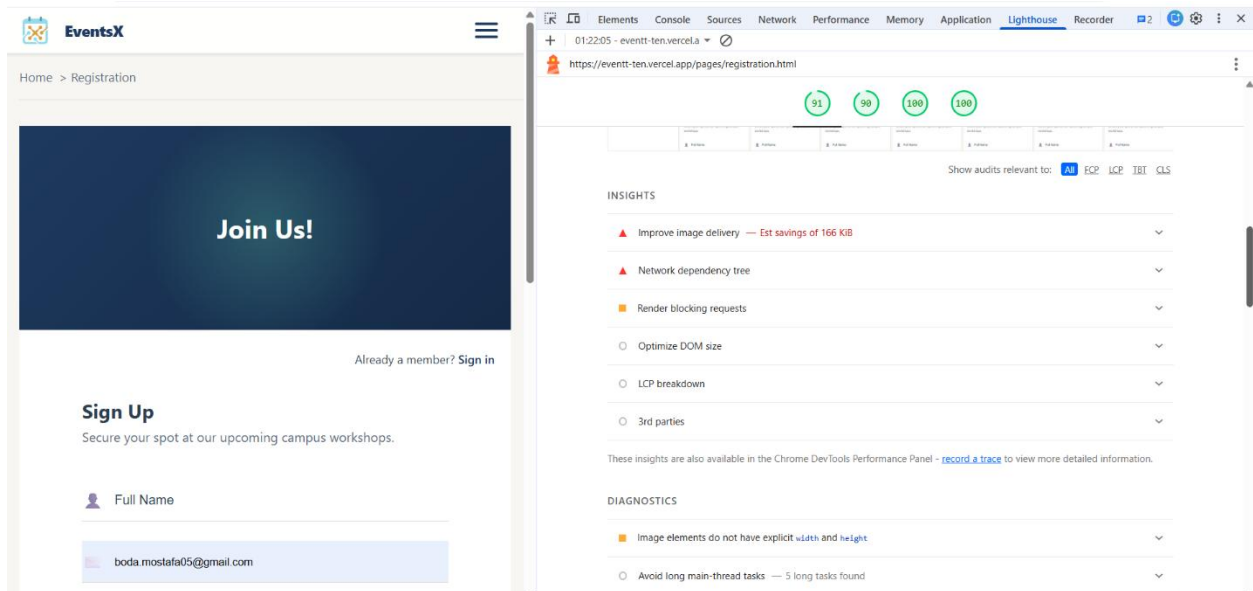
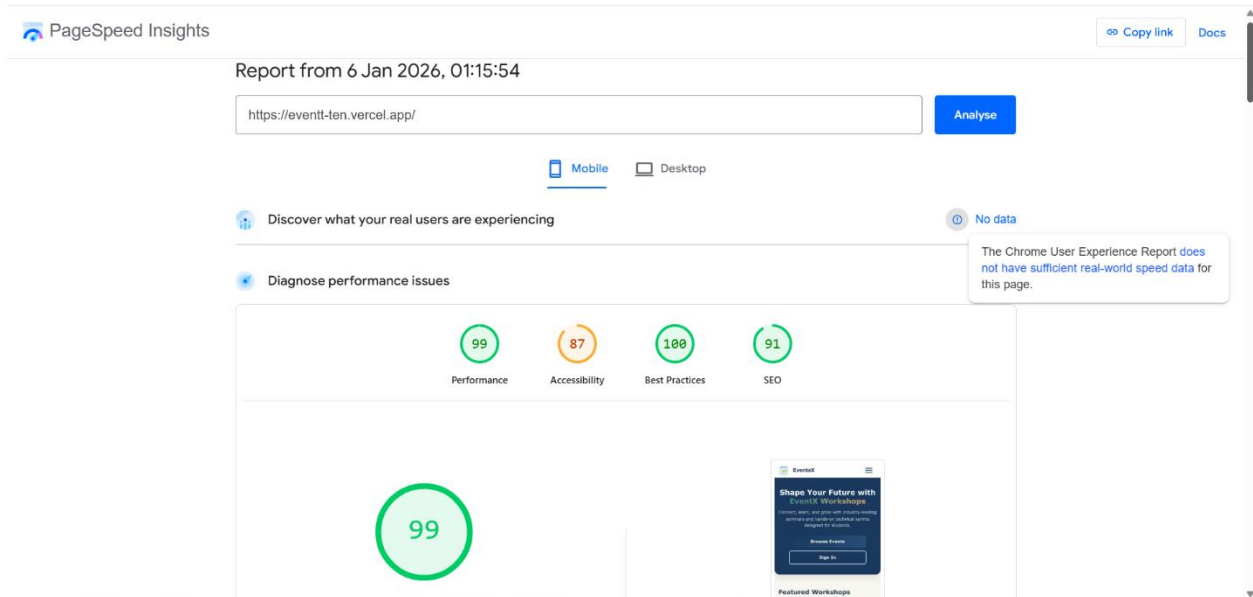
- **The Issue:** Your site has scripts or stylesheets in the `<head>` that stop the browser from showing the page until they are fully loaded.
- **Impact:** This adds nearly half a second of "blank screen" time for the user.

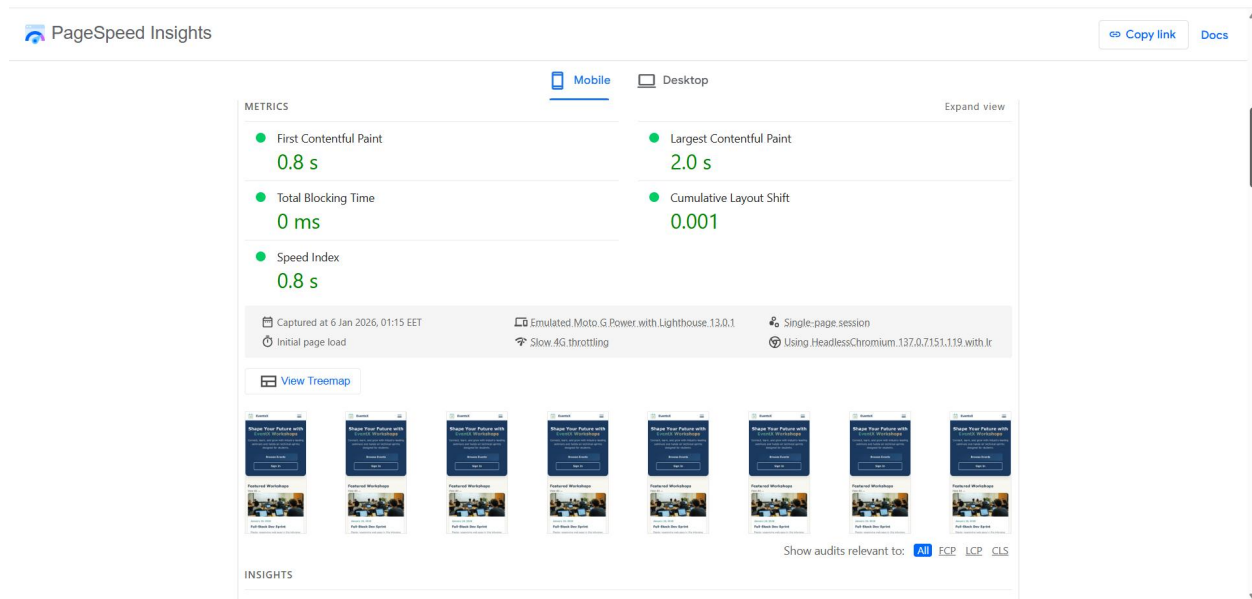
B. LCP Request Discovery

- **The Issue:** The browser is not finding **Largest Contentful Paint (LCP)** element early enough in the loading process.
- **Why it happens:** This often occurs if the image is loaded via CSS or if it is being "lazy-loaded" by a script.

C. Improve Image Delivery (Est. Savings: 173 KiB)

- **The Issue:** Your images are either too large in file size, not compressed, or using older formats like JPEG/PNG instead of **WebP** or **AVIF**.





Event Page Performance

The "Events" page is a high-performing asset for the site. On **Mobile**, it reaches a near-perfect balance with **100 Performance, 100 Best Practices, and 100 SEO**

2. Performance Scorecard

Events Page Analysis

Metric	Desktop	Mobile	Status
Performance	100	97	Excellent
Accessibility	96	96	Excellent
Best Practices	100	100	Perfect
SEO	100	100	Perfect

Key Loading Metrics (Mobile Events Page)

- **First Contentful Paint (FCP):** 1.2s — The page starts appearing quickly.
- **Largest Contentful Paint (LCP):** 2.1s — The main "Upcoming Events" banner is visible in just over two seconds.
- **Total Blocking Time (TBT):** 170ms — There is a minor delay where the page might feel "frozen" during load, but it is well within acceptable limits.

The Diagnostics

- **The Problem:** The images are missing width and height attributes in the HTML code.
- **Why it's a "Diagnostic":** When a browser loads your page, it doesn't know how big an image is until it finishes downloading it. Once the image "pops in," it pushes the text and buttons below it down. This is called **Cumulative Layout Shift (CLS)**.

2. Eliminate Render-Blocking Resources

- **The Problem:** There are CSS or JavaScript files in the <head> of your code that tell the browser: *"Stop everything! Don't show the page until you finish downloading me."*
- **It is a "Diagnostic":** As it creates a "white screen" effect where the user sees nothing for a split second, even if the rest of the site is ready to go.

3. Avoid Non-Composited Animations

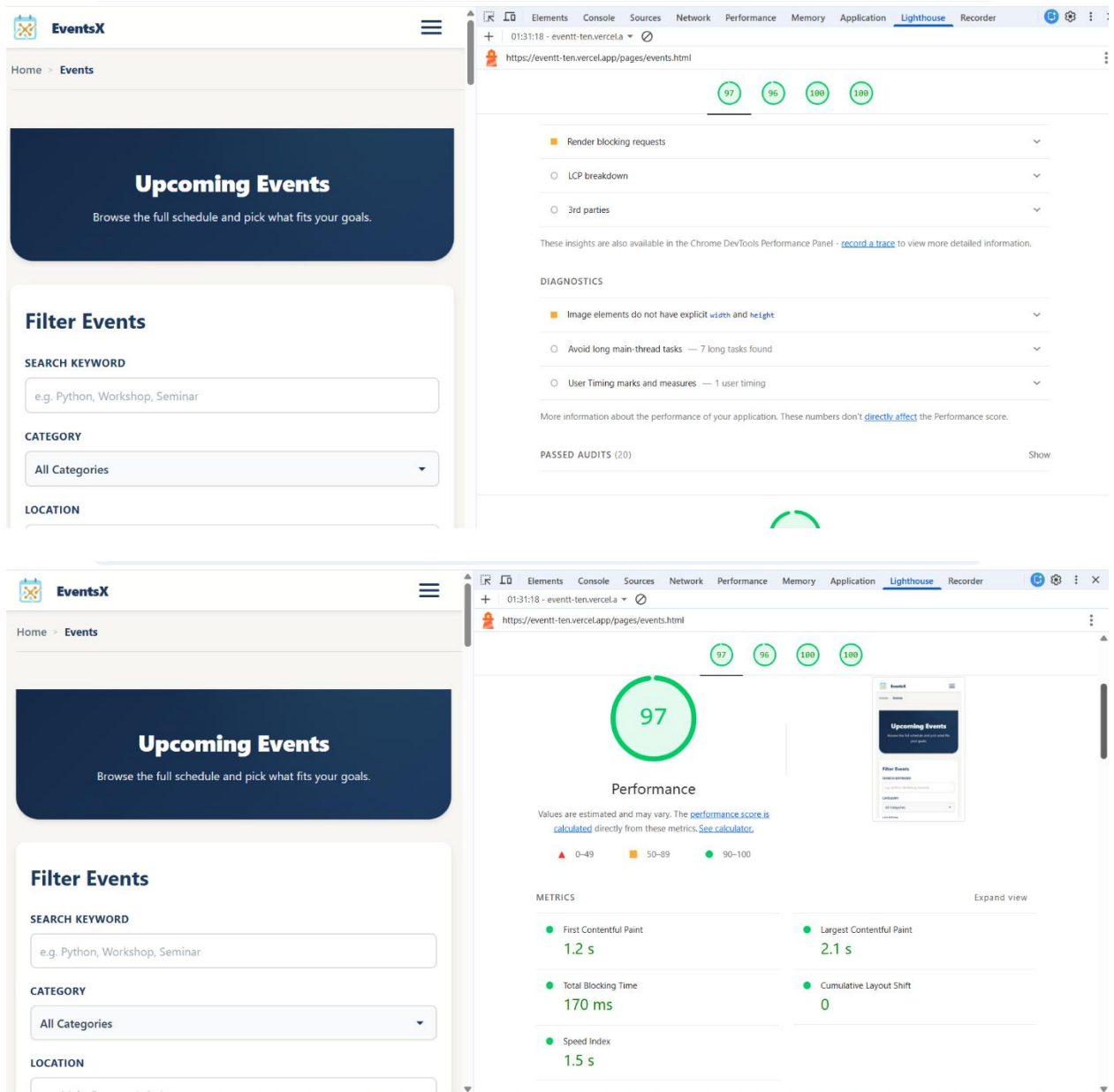
- **The Problem:** You are animating properties like `margin`, `top`, `left`, `width`, or `height` (likely for hover effects or loading fades).
- **Why it's a "Diagnostic":** These properties force the browser to recalculate the entire layout of the page for every frame of the animation. On a mobile phone or a slow computer, this makes the animation look "choppy" or "laggy."

4. LCP Request Discovery

- **The Problem:** The browser is "discovering" your most important image (the Largest Contentful Paint) too late in the loading process.
- **Why it's a "Diagnostic":** the main banner is loaded via a CSS file or a script, the browser has to download those files *first* before it even knows the banner exists.

5. Improve Image Delivery

- **The Problem:** images are either uncompressed, too large for the screen size, or in an old format (like PNG/JPG).
- **It is "Diagnostic":** Big images eat up data and slow down the "time to visual completion."



Diagnostics Report (Desktop)

1. Cumulative Layout Shift (CLS) & Image Dimensions

- **The Findings:** This is the most significant diagnostic flagged. On the Events page, your CLS is 1.12, which is rated as "Poor." On the Dashboard, it is 0.118.

- **The Cause:** Image elements on your site do not have explicit `width` and `height` attributes defined in the HTML.
- **The Impact:** When a user opens a page, the browser doesn't know how much space to reserve for images. Once an image loads, it pushes the surrounding content (text, buttons, filters) down suddenly. This "jump" is jarring and often causes users to click the wrong element by mistake.
- **The Fix:** Add explicit dimensions to every `` tag (e.g., ``).

2. Render-Blocking Resources

- **The Findings:** Flagged as a primary opportunity on the Student Dashboard and Homepage.
- **The Cause:** There are external CSS files or JavaScript scripts located in the `<head>` section of your pages that the browser must fully download and process before it can start showing any content to the user.
- **The Impact:** This increases the "blank screen" time. Even if your server is fast, the user perceives a delay because the browser is "blocked" from rendering the page.
- **The Fix:** * Add the `defer` or `async` attribute to non-critical script tags.
 - Inline critical CSS and load the rest of the styles asynchronously.

3. Non-Composited Animations

- **The Findings:** Found across multiple desktop pages, specifically involving at least 2 animated elements on the Homepage.
- **The Cause:** Your animations likely use properties like `margin`, `padding`, `top`, or `width/height`.
- **The Impact:** These properties force the browser's "Main Thread" to recalculate the entire page layout for every single frame of the animation. This can cause "stuttering" or "jank," especially if the user has many tabs open or is using a less powerful desktop.
- **The Fix:** Only animate `transform` (for movement, scale, or rotation) and `opacity` (for fading). These are handled by the GPU and do not trigger layout recalculations.

4. Network Dependency Tree & Request Discovery

- **The Findings:** Specifically flagged on the Dashboard and Mobile diagnostic views.
- **The Cause:** The "Largest Contentful Paint" (LCP) element—usually your main hero image or header—is being discovered late because it is buried in a CSS file or loaded via a script.
- **The Impact:** The browser "sees" the image too late in the loading sequence, which unnecessarily inflates your loading time.
- **The Fix:** Use a `<link rel="preload">` tag in your HTML header to tell the browser to start downloading the main hero image immediately, even before it reads the CSS.

5. Main-Thread Activity (Long Tasks)

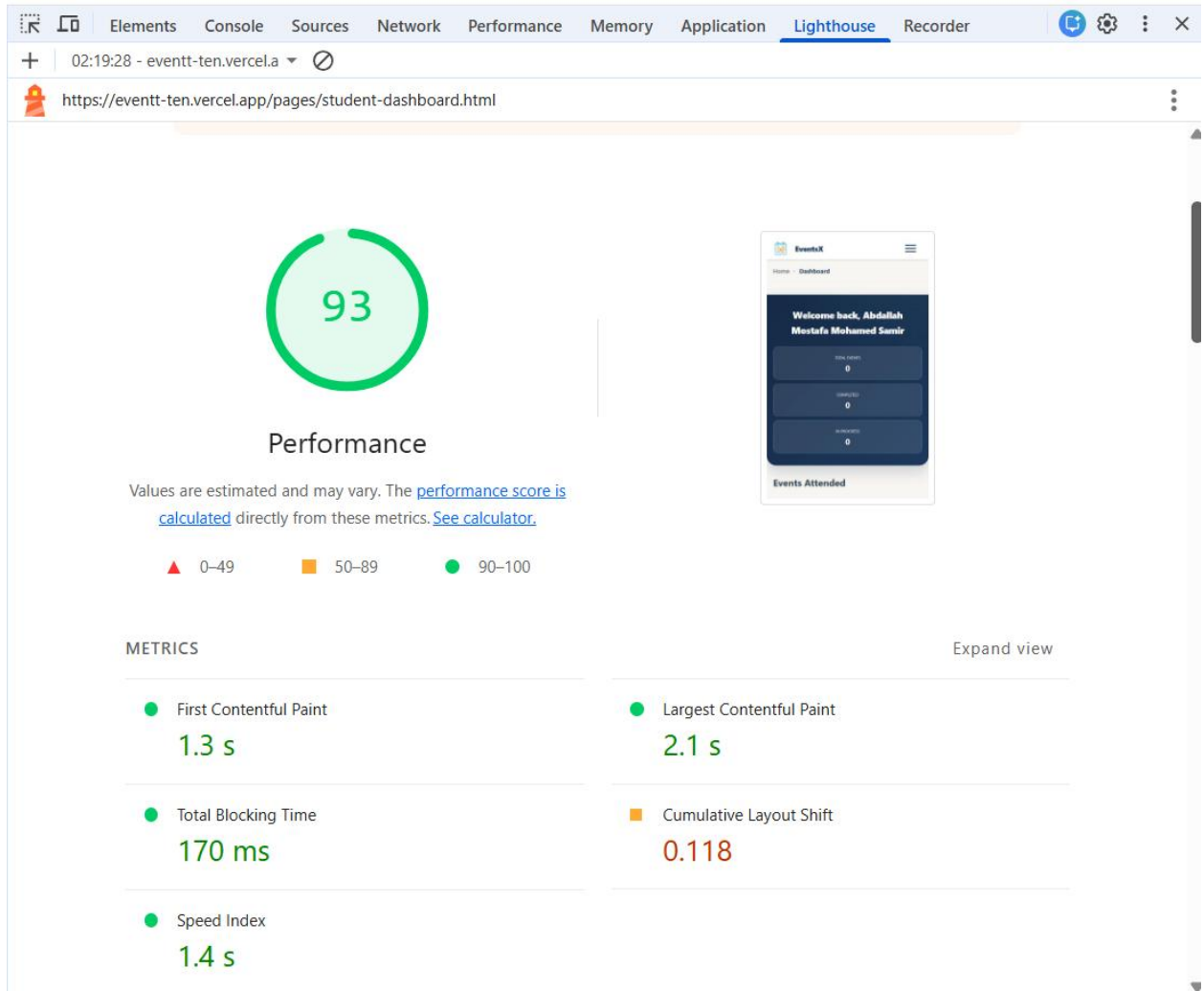
- **The Findings:** The Student Dashboard identifies **5 long tasks** that are tying up the browser's main thread.
- **The Cause:** This is usually caused by complex JavaScript execution or "DOM Bloat" (having too many nested HTML elements).
- **The Impact:** During these tasks, the page is unresponsive. If a user tries to click "Browse Events" while a long task is running, nothing will happen for a few hundred milliseconds, making the site feel "broken" or slow.
- **The Fix:** Optimize your JavaScript functions to be smaller and more efficient, and consider reducing the number of unnecessary wrapper `<div>` elements in your HTML

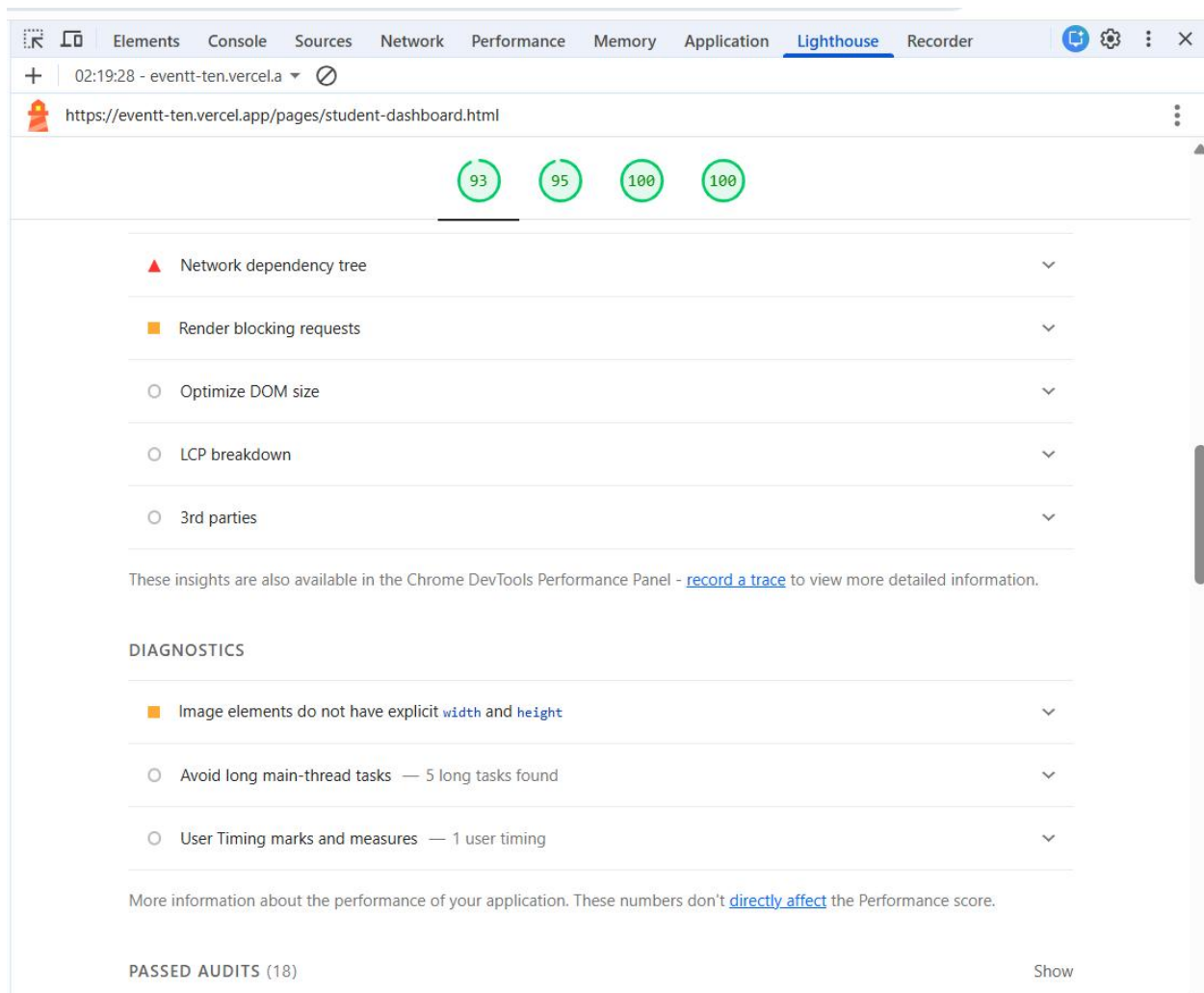
The screenshot displays a web browser with the 'EventsX' application. The browser's Performance tab is active, showing a performance audit. The page layout includes a dark blue header with 'Upcoming Events', a light blue sidebar with 'Filter Events', and a main content area. The Performance tab shows the following metrics:

- Largest Contentful Paint (LCP):** 0.66 s. Your local LCP value of 0.66 s is good. LCP element: `h2#pageTitle.pageTit...`
- Cumulative Layout Shift (CLS):** 1.12. Your local CLS value of 1.12 is poor. Worst cluster: [2 shifts](#)
- Interaction to Next Paint (INP):** 16 ms. Your local INP value of 16 ms is good. INP interaction: [pointer](#)

The 'Next steps' panel on the right provides additional guidance:

- Field metrics:** See how your local metrics compare to real user data in the [Chrome UX Report](#). [Set up](#)
- Environment settings:** Use the [device toolbar](#) and configure throttling to simulate real user environments and identify more performance issues.
 - CPU: No throttling
 - Network: No throttling
 - ☒ Disable network cache
- Record:** [Record](#) (Ctrl + E)
- Record and reload:** [Record and reload](#) (Ctrl + Shift + E)





Technical Diagnostics Report: Registration Page

1. Core Web Vitals (The "Good" News)

The page is incredibly lean and responsive, as evidenced by these near-instant loading times:

- **Largest Contentful Paint (LCP):** 0.5s – 0.6s (Excellent)
- **Total Blocking Time (TBT):** 0ms (Perfect interactivity)
- **Cumulative Layout Shift (CLS):** 0 (Perfect visual stability)

2. Critical Diagnostic Findings

Despite the high scores, the following technical "opportunities" were identified in the Lighthouse audit:

A. Image Delivery Efficiency

- **The Issue:** The audit flagged an estimated saving of **166 KiB** by improving image delivery.
- **Why it matters:** While desktop users on high-speed internet won't notice, this extra weight can slow down the "Join Us!" banner or other visual assets for users on capped or slower connections.
- **The Fix:** * **Modern Formats:** Convert images to **WebP** or **AVIF** instead of standard JPEGs.
 - **Compression:** Ensure all decorative images are compressed before deployment.

B. Network Dependency Tree

- **The Issue:** Your critical assets (like the main "Join Us!" background or primary styles) are part of a deep dependency chain.
- **Why it matters:** If the browser has to download a CSS file before it even *finds* the image or the next font file, it creates a "waterfall" delay.
- **The Fix:** Use `<link rel="preload">` for the most important image or font on the page to fetch them as early as possible.

C. Render-Blocking Requests

- **The Issue:** There are external files (scripts/styles) in the `<head>` that prevent the page from displaying immediately.
- **The Fix:** Even though your current speed is fast, adding the `defer` attribute to your scripts will ensure that your HTML content is always the first thing the browser handles.

D. Missing Explicit Image Dimensions

- **The Issue:** Like your other pages, the images here are missing width and height attributes in the code.
- **The Fix:** Adding these (e.g., ``) is a "best practice" that prevents the page from ever shifting, even if you add more content later.

3. Accessibility Note (Score: 90)

Your registration page is 10 points away from perfection. To hit 100, focus on:

- **Form Labels:** Ensure every input field (Full Name, Email) has a corresponding `<label>` tag. This is crucial for screen readers.

- **Button Contrast:** Ensure the "Sign In" link and "Sign Up" button colors have high enough contrast against their backgrounds.

Summary Table

Diagnostic Item	Impact	Priority
Image Compression	Save ~166 KiB	Medium
Render Blocking	Reduce initial delay	Low
Image Dimensions	Future-proof CLS	Low
Form Accessibility	Hit 100 Accessibility	High

The screenshot shows a web browser displaying a registration page for 'EventsX'. The page has a dark blue header with the text 'Join Us!' and a 'Sign Up' button. Below the header, there is a 'Sign Up' section with a form for 'Full Name' and 'Email' (boda.mostafa05@gmail.com). The browser's developer tools are open, showing the 'Performance' tab. The 'Local metrics' section displays the following values:

- Largest Contentful Paint (LCP): 0.50 s. Your local LCP value of 0.50 s is good. LCP element: p_subtitle
- Cumulative Layout Shift (CLS): 0.00. Your local CLS value of 0.00 is good. Worst cluster: 1 shift
- Interaction to Next Paint (INP): 16 ms. Your local INP value of 16 ms is good. INP interaction: pointer

The 'Next steps' section on the right provides additional information and settings:

- Field metrics:** See how your local metrics compare to real user data in the [Chrome UX Report](#). [Set up](#)
- Environment settings:** Use the [device toolbar](#) and configure throttling to simulate real user environments and identify more performance issues.
 - CPU: No throttling
 - Network: No throttling
 - ☒ Disable network cache
- Record:** [Record](#) (Ctrl + E)
- Record and reload:** [Record and reload](#) (Ctrl + Shift + E)

EventsX

Home > Registration

Join Us!

Already a member? [Sign in](#)

Sign Up

Secure your spot at our upcoming campus workshops.

Full Name

boda.mostafa05@gmail.com

01:23:36 - eventt-ten.vercel.a

https://eventt-ten.vercel.app/pages/registration.html

100 90 100 100

100

Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0-49 ■ 50-89 ● 90-100

METRICS

Expand view

● First Contentful Paint

0.4 s

● Total Blocking Time

0 ms

● Speed Index

0.4 s

● Largest Contentful Paint

0.6 s

● Cumulative Layout Shift

0

EventsX

Home > Registration

Join Us!

Already a member? [Sign in](#)

Sign Up

Secure your spot at our upcoming campus workshops.

Full Name

boda.mostafa05@gmail.com

01:23:36 - eventt-ten.vercel.a

https://eventt-ten.vercel.app/pages/registration.html

100 90 100 100

Show audits relevant to: **All** FCP LCP CLS

INSIGHTS

▲ Improve image delivery — Est savings of 166 KiB

▲ Network dependency tree

■ Render blocking requests

○ Layout shift culprits

○ Optimize DOM size

○ LCP breakdown

○ 3rd parties

These insights are also available in the Chrome DevTools Performance Panel - [record a trace](#) to view more detailed information.

DIAGNOSTICS

■ Image elements do not have explicit width and height

○ User Timing marks and measures — 1 user timing